Comments on:

Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residues From Electric Utilities: Amendments to the National Minimum Criteria (Phase 2)

As someone that previously worked at EPA for 41 years, including extensive efforts on the management of coal ash, I have some personal perspectives to share on the upcoming proposed rule. Attached are 3 write ups, separately addressing amendments to comply with the 2018 court decision regarding unlined and clay lined disposal units, the 12,400-ton threshold for beneficial use assessments, and the interpretation of regulatory coverage of beneficial use practices.

I am not aware of what is precisely covered by the upcoming proposal, or how EPA has elected to address the issues. Thus, my perspective, presented in the attached materials, focuses on key perspectives that may substantially benefit by being introduced early in the regulatory process. I noted that the action is listed as not economically significant. Not knowing the details of the rule, that may be true, but much of the impacts on the industry even for fairly minor items can be very costly. I am therefore skeptical regarding that determination, but sense USWAG and others are much better positioned to address that matter. Thank you for considering these comments.

Respectfully,

Richard Kinch

Court Decision Associated with Unlined and Clay Lined Units

Problem

In 2018, the U.S. Court of Appeals determined that for unlined and clay lined units, EPA's coal ash rule "does not address the identified health and environmental harms ... Moreover, the EPA has not shown that harmful leaks will be promptly detected; that, once detected, they will be promptly stopped; or that contamination, once it occurs, can be remedied." With this ruling, unlined and clay lined units that are not causing environmental problems and with appropriate site analysis can be shown not to cause future problems could incur considerable expense for an illusion of environmental benefit.

Perspective

Whether EPA and industry failed to provide appropriate insight on the issue or the court's thinking was flawed, we now have a decision that has a strong potential to be implemented in a manner that is needlessly costly and without environmental benefit. Stepping back, here are a few important factors the court decision appears to have overlooked:

- Setting aside most all of the technical flaws associated with the court decision, there is a valid point that just because an unlined or clay lined coal ash unit is currently not exceeding criteria, does not constitute a finding that such units will not have harmful leaks in the future. Trying to address such concern with a national EPA finding is a flawed perspective, which needs to be abandoned. The appropriate view is to look at site-specific information. As an example, the impoundment with, by far, the highest concentration of Arsenic was unlined, was not a damage case and was never going to become one. The impoundment sat on a massive formation of impermeable shale. Any reputable site-specific risk analysis would conclude there was not a reasonable potential for adverse impacts to human health and the environment at that site. The simple solution to address the court's concern is for EPA to require a site-specific risk assessment to determine if there is an adverse future potential risk. This would supplement the existing monitoring information that might show no existing problems and limit force change based on the site-specific risk assessment, where appropriate. Adding a site-specific risk assessment provision for unlined and clay lined units is a far more meaningful approach.
- There are 2 basic regulatory structures depending on the statute. One is for risk-based controls, and the other is technology-based. Inherently, risk-based regulations are supposed to deal with site-specific conditions. For EPA to add site-specific risk assessment provision for unlined and clay lined units to continue operation would structurally be a common concept for implementing a risk-based statute. RCRA Subtitle D which is the basis for EPA's Coal Ash Rule is risk-based. This movement towards statements that one needs Technology X, is really a technology-based requirement that is reflected in RCRA Subtitle C which calls for double liners with leachate collection in the statute, and it does not matter what the site conditions are or the precise risk. As indicated

above, site-specific considerations can appropriately manage implementation of the court decision, and is inherently part of the foundation of risk-based statutory authorities.

- There is an illusionary trail that is built upon coal ash contains toxics, the toxics leach, and there are adverse human health and environmental consequences. This is the paint brush upon which the industry is painted by some. Of course, there is some degree of truth in each part of the trail, so it can be persuasive. Doing the technical work on a site-specific basis is a more honest, revealing, and meaningful approach.
- While the court refers to "harmful leaks", there does not appear to be an adequate acknowledgement that risk to human health and the environment is dependent both on the concentrations of contaminants in the environment and the exposure of receptors. Within the industry, there are plenty of sites where impoundments are located next to surface water bodies, the utility owns the generally small strip of property between the impoundment and surface water, and due to groundwater flows, there are no potentially impacted drinking water wells, nor is there a reasonable possibility of such wells in the future. EPA in the coal ash rule recognized that groundwater interception by a surface water body can greatly change site-specific risk considerations. Without the potential use of impacted groundwater, there is no exposure by receptors, and there is no groundwater risk. Of course, the groundwater in such circumstances will flow into the surface water body, and therefore there will be an issue as to whether there is a surface water quality problem. But, this is not an opportunity to take out an industry wide brush and paint the industry with some limited findings of surface water quality impacts. States have dealt with this issue under the Clean Water Act and those evaluations are in place. To the extent there is the thought that supplemental risk modeling is necessary, fine – EPA could add such a condition. Note, the bulk of these flows is via the NPDES permit, States monitor the receiving stream to assess water quality, and these releases can be far from possible exceedance levels. Where drinking water wells are not an issue, and the exposure is limited to potential surface water quality, that is a relatively simple matter to resolve on a site-specific basis (often with work that has already been done to address surface water quality).
- The public, courts, and even regulatory authorities have a flawed belief that a lined unit that prevents leakage to groundwater is always environmentally better than an unlined unit where there is leakage to groundwater. A revealing illustration is to look at what the Coal Ash Rule accomplishes for a for a very common scenario associated with coal ash surface impoundments. The scenario, is where:
    - the Clean Water Act NPDES regulatory authority has found that there is not a surface water quality problem,
    - groundwater flow is from the surface impoundment towards a nearby surface water body,
    - the intervening land does not contain a drinking water well nor is there a reasonable likelihood of a future drinking water well (this can be quite possible where the utility owns the land that the distance is small), and
    - mounding effects are not causing groundwater impacts on properties not owned by the utility.

For such scenarios, there is no risk to human health or the environment with or without a liner. Without a liner, there are 2 flows entering the surface water, namely a surface water discharge and a groundwater to surface water release. A water balance in this situation would be that what goes into the surface impoundment (the coal ash slurry, rainfall, and any other wastewater streams the utility discharges to the impoundment) equals what goes out of the surface impoundment (the NPDES discharge, leakage to groundwater, and evaporation) minus accumulation. With the addition of an impermeable liner, a basic water balance simply reveals that the 2 releases now become one – the leachate in the unlined situation along with its contaminants becomes part of the surface water discharge. The main function of installing a liner in this situation is that contaminants get released to the surface water body quicker – that is not a meaningful environmental objective. Again, the concept of whether there is something more than someone's illusion of risks, depends on looking at the site-specific conditions. Of course, where there are true risks, they need to be addressed. But in many cases, EPA could require the site-specific risk assessments and produce a sounder regulatory structure. (There was reference by EPA and the court of low levels of liners associated with surface impoundments. The simplistic flawed assumption by many were that State authorities were failing to be protective. While there are cases where that is true, there are also many cases where authorities recognized that there was no exposure to groundwater due to the lack of current and future wells, that the true issue was surface water quality, and for the site that was not a valid concern. There are those that do not care if there are no undo drinking water or surface water risk, now or in the future – they want controls installed. That, however, is not consistent with the risk-based RCRA Subtitle D statute – it would be appropriately structured for new sources under a technology based statute, but that is not the case.)

Recommendation

While there are several refinements that are possible to best implement the court ruling on unlined and clay lined coal ash disposal units, there is one key action that will at least focus environmental change on those circumstances where it is meaningful, and significantly reduce adding costly burdens that have no value with regard to environmental risk. That action is to condition continued operation of unlined and clay lined units on a site-specific assessment of risks to deal with the future expectations associated with the site. Such an addition would effectively deal, on a site-specific basis, the court's concern that any solid waste disposal site pose "no reasonable probability of adverse effects on health or the environment." Site-specific assessments add sound science to a crude non-specific national picture that some sites may be a future problem and some may not.

12,400-Ton Threshold for Beneficial Use Assessments

Problem

In the original 2015 Coal Ash Rule, EPA decided that as a beneficial use project got larger, at some point there should be a requirement for an environmental assessment. The issue was what size should trigger that assessment. There were a few methodologies identified and a decision to go with the one that utilized the smallest landfill size as the criteria. The logic being that if EPA was regulating units of that size, then an environmental assessment was appropriate for similar size beneficial use projects. Subsequent to issuance of the rule, parties have identified that the information on the 12,400-ton landfill was in error, and that the smallest coal ash landfill is considerably larger. Industry has requested correction of the criterion to one reflecting valid data, and EPA has not taken corrective action.

Perspective

Having been the author of the 12,400-ton figure, I have a high level of insight on this issue. In using the selected methodology, I warned my management that this was a very risky approach. With large data sets picking the single highest or lowest value incurs a substantial risk that the data submittal is in error – which apparently turned out to be the case. There were a couple of other methodologies and their results. Frankly, the other choices were structurally more secure in their output and there was no time to engage in further data quality review. The other methodologies, however, gave higher results, which seemed to be dismissed for that reason. It should be mentioned that for a considerable period of time, I advocated a methodology which structurally was the most sound approach, but it was never executed – EPA should conduct risk analyses assuming various size cut-offs and determine at what level an assessment was no longer warranted. This recommendation was not executed because the risk analysis team was overwhelmed with work on the disposal side of the rulemaking, and simply did not have the time to pursue this methodology. Until a risk analysis methodology is executed, I can only make educated guess at outcomes, but I sense that all of the methodologies, including risk analysis, would result in significantly higher values. As for where we are today on this matter, I cannot imagine a valid excuse for the lack of a correction – if you know the data is wrong, good government corrects it. I have heard of a possible rationale that because the data was included in the risk analysis for disposal, that justifies its use for the beneficial use criterion. If that is EPA's position, that is an absurd example of bad government. Correcting the value for the coal ash disposal analysis is unnecessary because the analytical conclusions based on the 90^{th} percentile would not be meaningfully changed, but the single value methodology for beneficial use is a very different matter. There cannot be a justification for using bad data for 2 different

purposes and argue that no change is needed because the bad data was used for another purpose. Note, the disposal risk assessment, as a massive conglomeration of data, does not speak to risk at a specific level such as 12,400 tons.

Recommendation

The beneficial use size criterion for an environmental assessment should not be based on a bad data point, nor should the Agency be engaged in selecting methodologies based on which one gives an answer they like better. If the Agency still believes the smallest landfill size is appropriate, then let it take the criterion where the valid data goes. I have favored developing the criteria via a risk assessment. There was a valid reason for not pursuing that direction during the original rulemaking. But if after 4 years, EPA has not bothered to do such an analysis, EPA should just proceed with the current methodology adjusted for valid data. If EPA has done the risk analysis and is including the methodology in the upcoming proposal, the process was overly slow, but it is a commendable action which will produce interesting opportunities for public comment.

Regulatory Coverage of Beneficial Use Practices

Problem

The Coal Ash Rule included the following provision: "This Subpart does not apply to practices meeting the definition of beneficial use of CCR." There are numerous circumstances where EPA has used language similar to the CCR Rule's provision on beneficial use. Everywhere else "This Subpart does not apply…" means what it says. Despite this exclusionary language, EPA is apparently interpreting that provisions of the Coal Ash Rule still apply.

Perspective

Despite this exclusionary language, EPA appears to be interpreting that provisions of the Coal Ash Rule still apply – and for a couple of notable circumstances, placement of coal ash in a clay mine, and use of coal ash for grading/stabilization of disposal units during closure. As for the clay mine issue, EPA had an issue with regard to damage cases associated with placement of coal ash in sand and gravel pits and quarries. In the original proposed rule, EPA sought to regulate placement in sand and gravel pits as disposal. In the 2015 final rule EPA added a definition of sand and gravel pits and quarries that made no sense. EPA's sand and gravel definition encompasses essentially all mining operations – thus, a copper, iron, phosphate, clay, etc. are all considered to be sand and gravel operations for which EPA may be claiming are regulated as disposal. When questioned, Barnes Johnson, indicated that no one at EPA took ownership of this language or knew why it was added. I tracked down a retired EPA staff employee who confirmed that he wrote the language, and did not intend that it would preclude applicability of the beneficial use criteria, and that information was provided in writing by the ex-EPA employee. Somehow with no supporting data/analysis, management awareness, or common-sense, EPA maybe interpreting sand and gravel conditions apply to operations that no sound party considers sand and gravel pits and quarries – and in conflict with the "This Subpart does not apply …" language. Note, the beneficial use conditions were designed to be protective of human health and the environment, encourage sound beneficial use practices, and avoid disposal stigma that could negatively impact beneficial use projects. So allowing the beneficial use criteria to govern is protective without applying coal ash disposal provisions. As for beneficial use of coal ash for grading/stabilization during closure, this is a practice that was acknowledged in the preamble to the 2015 rule, can result in multi-million dollar saving for a facility, and when performed in accordance with the beneficial use criteria does not pose any additional environmental risks. (In closing a surface impoundment, dry coal ash can be used to stabilize the surface. It should be acknowledged how important this action is – a worker died during the closure of a drained impoundment because the surface was not

adequately supportive of machinery that needed to be on the surface. Grading the surface is also an important step where the use of coal ash for grading has no environmental impact due to the cover system and the fact that groundwater models recognize that there is already an infinite source.) Somehow there seems to be a reading that the Subpart's prohibition from placement of additional coal ash applies despite the language "This Subpart does not apply to practices meeting the definition of beneficial use of CCR." The "This Subpart does not apply…" language means what it says elsewhere. Very analogous circumstances occurred in the MSWLF rule which prohibited the addition of liquids. Later, EPA added a provision that said if the MSWLF meets the definition of a bioreactor, then the prohibition on liquids does not apply. For practices that meet the definition of a bioreactor, they can indeed add liquids, despite the prohibition of liquids in MSWLFs. In the case of CCR, there are provisions in the Subpart where the addition of CCR is prohibited. But, like bioreactors, there is the exclusion: "This Subpart does not apply to practices meeting the definition of beneficial use of CCR." This type of inconsistent and critically important opinion by EPA warrants reconsideration. Does EPA have a new principle that should be shared across all the other rules that utilize "This Subpart does not apply…" language? It should also be mentioned that as EPA tries to develop "other" rules for beneficial use, the Agency has just made matters worst because they haven't done the work to understand the complexities of beneficial use. For example, the prior amendment proposed new conditions for use of coal ash during closure. EPA backed away from issuing a final rule because of the flaws identified, but there is a need to recognize that the beneficial use criteria is in place, functions well, and does not need to be replaced.

Recommendation

If EPA has already altered their thoughts on the coal ash rule's "This Subpart does not apply…" language so that it means what it says, they should be commended. If not, the upcoming proposal should do so. The interpretation of coverage has no consistency with past use of similar language by EPA, such a position creates significant confusion with how people should read such language across many similar rules, and inhibits practices that are economically meaningful and pose no undo environmental risks. With nonsensical language defining most all mining operations as sand and gravel, and the lack of data or intended support, This interpretative issue associated with "This Subpart does not apply…" is a confusing mess with no clear benefit. In the proposed rule, EPA should say that the "This Subpart does not apply …" language means what it says, and if there are any areas that EPA believes should not be eligible for the Subpart exclusion, propose adding such language directly to the definition of beneficial use. It does make an important difference to interpret the regulatory language as stated – instant relief for meaningful issues, and a path to take sensible action within the definition of beneficial use, if EPA sees and can justify an actual need.